

## Background

Secondhand tobacco smoke (SHS) is a mixture of gas and particles. It contains a deadly mix of 4000 chemicals, including ingredients found in products such as paint stripper (acetone), toilet cleaner (ammonia), rat poison (cyanide), insecticide (DDT) and car exhaust fumes (carbon monoxide). At least 50 of these toxic chemicals can cause cancer and other serious illnesses.<sup>1</sup>

SHS also contains airborne nicotine, a highly addictive substance. Tobacco smoke is the only source of airborne nicotine in most environments and thus is a direct indicator of exposure to SHS.

Exposure to SHS, or passive smoking, has both immediate and long-term health effects.

Immediate effects include:

- Eye irritation
- Headache
- Cough
- Sore throat
- Dizziness and nausea

In the longer-term, SHS exposure (passive smoking) increases the risk of developing a range of smoking-related illnesses, including:

- In adults: Lung cancer, heart disease, stroke, and respiratory illnesses
- In children: Sudden infant death syndrome (SIDS), upper respiratory infections, ear infections, and severe asthma

## Methods

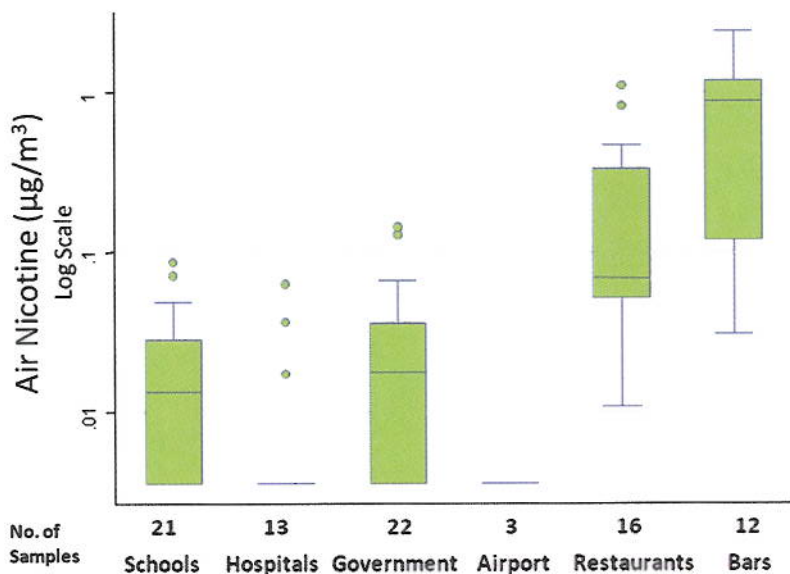
The objective of this study was to monitor air nicotine levels as well as smoking behavior in public places and work places in Trinidad and Tobago. The results provide a brief snapshot to help us understand how much employees and visitors are being exposed to SHS in each location.

A total of 34 buildings (an airport, hospitals, government offices, schools, restaurants and bars) were monitored for air nicotine in eight counties in Trinidad and Tobago. Sample collection took place in March 2010.

A brief summary of the findings from this study is presented here.

## Air Nicotine in Public Places

Air nicotine was detected in the majority of buildings. Any level of air nicotine detected indicates that tobacco smoking had occurred.



Each dot represents the air nicotine concentration for a single monitor. Some dots may overlap others in the figure. The bar in each box reflects the median (50% percentile) air nicotine concentration for each venue. Values below the limit of detection (LOD) were replaced by the LOD divided by ½.

Venue	Number of monitors	Monitors with detectable nicotine (%)	Air Nicotine Concentration (µg/m³)		
			Median	Low	High
Airport	3	0	< LOD	< LOD	< LOD
Government	22	67	0.02	< LOD	0.14
Hospital	13	21	< LOD	< LOD	0.06
Restaurants	16	100	0.07	0.01	1.11
Bars	12	100	0.89	0.03	2.42
Schools	21	52	0.01	< LOD	0.09

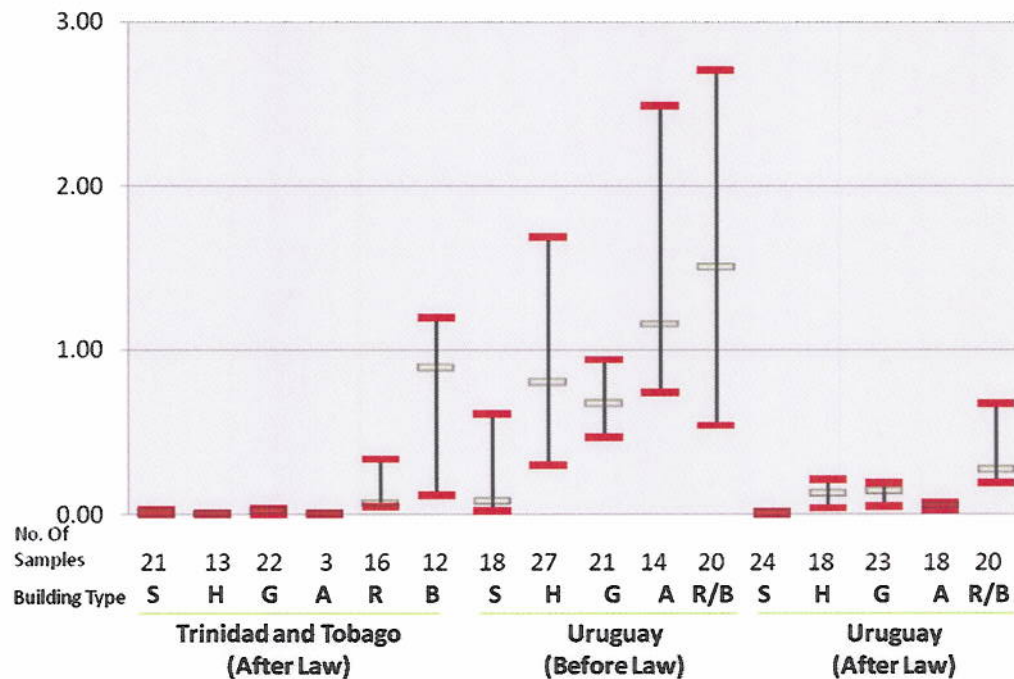
\* LDD = 0.007 µg/m³

### Levels of Air Nicotine in Indoor Places in Trinidad and Tobago

- Detectable levels of air nicotine were found in all building types, except for the airport.
- More than half of the monitors detected nicotine in the air in the schools, government offices, and entertainment venues (bars and restaurants).
- The highest air nicotine levels were found in entertainment venues, with bars recording double the values found in restaurants.
- Air nicotine is a pollutant and it is present only when tobacco is smoked. The expected air nicotine level should be null (<LOD).

# Clearing the Air: Measuring Secondhand Smoke in Trinidad and Tobago

Air nicotine comparison with other Latin American countries with 100% smoke-free legislations



The clear lines represent the medians and the dark lines the interquartile range. Abbreviations: S: Schools; H: Hospitals; G: Government; A: Airport; R: Restaurants; B: Bars; R/B: Restaurants and entertainment venues. Uruguay data source: Blanco-Marquizo et al. Tob Control 2010.

## Study Summary

- There is no risk-free level of secondhand smoke exposure. Even brief exposure can be dangerous. SHS is a pollutant that causes serious illness in adults and children.<sup>2</sup>
- Detectable levels of nicotine were found in the schools, hospitals, government offices, restaurants, and bars.
- The highest levels were found in restaurants and bars compared to the other types of buildings that were sampled.
- The air nicotine levels measured in public places in Trinidad and Tobago are similar to the levels measured in Uruguay after the implementation of the 100% smoke-free legislation.

## Recommendation

The World Health Organization Framework Convention on Tobacco Control, and Trinidad and Tobago is a Party, recommends that countries adopt a 100% smoke-free law, requiring all public places and work places to ban smoking indoors. Ventilation systems and designated smoking areas are not effective.<sup>3</sup>



Trinidad and Tobago implemented a 100% smoke-free legislation in February 2010. We recommend continuing with surveillance of compliance, especially in restaurants and bars.

## References

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